



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,088	12/16/2003	Thomas L. Kelly	KES0003US	5181
23413	7590	08/05/2009	EXAMINER	
CANTOR COLBURN, LLP			A. PHI DIEU TRAN	
20 Church Street			ART UNIT	PAPER NUMBER
22nd Floor			3633	
Hartford, CT 06103			NOTIFICATION DATE	
			08/05/2009	
			DELIVERY MODE	
			ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/737,088

Filing Date: December 16, 2003

Appellant(s): KELLY, THOMAS L.

---

Daniel R. Gibson  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6/25/09 appealing from the Office action mailed 10/9/2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6250036	Nurley et al	6-2001
Kelly	6006482	12-1999
4226071	Bennett	10-1980

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

Kelly (figure 30) shows a roof system comprising a roof deck (12), a primary waterproofing membrane (90) disposed over at least a substantial portion of the roof deck, a roof insulation layer (14, the lower layer) loose laid over primary waterproofing membrane, an energy absorbing layer (14, the layer below layer 9) supported by the insulation layer, a secondary waterproofing membrane (9) loose laid over the energy absorbing layer, the energy absorbing layer is gypsum board, joints in the insulation layer are offset from joints in the energy absorbing layer (inherently so the layer lays offset from any joint of the energy layer).

Kelly does not show the energy absorbing layer is of a different material than the insulation layer.

Kelly discloses the layers (14) being made of gypsum, OSB, fiber board, or wood.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's insulating layer to show the layer being made of wood in order to provide the roof structure with an insulating layer that also provides good supporting strength.

Kelly as modified shows the energy absorbing layer is of a different material than the insulation layer.

3. Claims 1-2, 6, 9-17, 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

Kelly (figure 30) shows a roof system comprising a roof deck, an insulation layer (lower layer, 14), the insulation layer is more compressible and resilient than the roof deck (wood), a frangible energy absorbing layer (14 upper layer, gypsum board inherently is frangible) supported by the insulation layer, a waterproof membrane (9) loose laid over the frangible energy absorbing layer, the energy absorbing layer being gypsum board, the joints in the insulation layer being offset from joints in the energy absorbing layer (inherently so as the insulation layer lays offset from the joint of the energy layer), the deck is air sealed, the membrane(9) is air sealed to a wall structure (26), the membrane is installed with at least one intentional wrinkle (figures 15,25-26), the at least on wrinkle is located at a perimeter edge of the deck (where part 9 bent from horizontal to vertical to attach to part 26), the at least one wrinkle is located within a field of the membrane (figures 15, 25-26), the at least one wrinkle is located at protrusions (figure 15, 25-26) of the roof membrane, the at least one wrinkle is located at both a field of the membrane and perimeter edge of the roof deck, the at least one wrinkle is adhered to an underlying layer (88, 67 figures 15, 25-26) of the system with an adherent (16, 16) composed to yield to shear force thereon, a wind blown debris resistant roof system comprising a roof deck

(12, figure 31), a layer of stiff material (the layer below layer 90) attached to the roof deck, a primary waterproofing membrane (90) supported by the stiff material, a roof insulation (14, the lower layer 14) and frangible energy absorbing layer (14, the layer below layer 9 and above the lower layer 14) loose laid over the primary water proofing membrane, a secondary waterproofing membrane (9) disposed over the frangible energy absorbing layer, a preexisting roof assembly that is air sealed underlying at least the energy absorbing layer.

Kelly does not show the energy absorbing layer is of a different material than the insulation layer

Kelly discloses the layers (14) being made of gypsum, OSB, fiber board, or wood.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's insulating layer to show the layer being made of wood in order to provide the roof structure with an insulating layer that also provides good supporting strength.

Kelly as modified shows the energy absorbing layer is of a different material than the insulation layer.

Kelly as modified shows the insulation layer being more resilient than the roof deck as the roof deck is comprised of concrete and metal.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

Kelly as modified shows all the claimed limitations except for the gypsum board being  $\frac{1}{2}$  inch thick.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the board being  $\frac{1}{2}$  inch thick because it would provide for good supporting strength and insulation for the roof.

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Nurley et al (6250036)

Kelly as modified shows all the claimed limitations except for the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker.

Nurley et al ( col 6 lines 28-45) discloses felt heavily reinforced with fiberglass would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to upper and lower surface of the material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker because having the felt being fiber glass reinforced would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to the surface of the material as taught by Nurley et al, and these properties are desired for a roofing membrane, and having the membrane being 80 mil fiberglass reinforced or thicker would have been obvious to one having ordinary skill in the art as it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claims 7-8, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Bennett.

Kelly as modified shows all the claimed limitations except for the insulation layer is of a resilient material.

Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would enable the insulation to provide proper air seal for the roof.

Per claim 8, Kelly as modified shows all the claimed limitations except for the resilient material being about 1.5 inch thick or more.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the resilient material being about 1.5 inch thick or more because it would provide for good air sealing for the roof.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Bennett.

Kelly (figure 30) shows a roof system comprising a roof deck (12), a roof insulation layer (14, lower layer) disposed upon the roof deck, at least 0.5 inch of gypsum board (14 upper layer) disposed upon the insulation layer, the insulation layer is configured to compress to allow energy absorption when the gypsum is struck by an object (inherently so as it is made of gypsum board which would compress when struck), a loose laid, non-reinforced waterproofing membrane (9) with fabricated wrinkles disposed upon the gypsum board.

Kelly does not show the insulation layer being resilient and made of at least one of expanded polystyrene and polyisocyanurate foam.

Bennett shows an insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's structure to show the insulation layer is of a resilient material and made of expanded polystyrene as taught by Bennett because resilient foam would provide good insulation for the roof structure as taught Bennett .

**(10) Response to Argument**

With respect to claims 18-20 rejection to Kelly, examiner would like to address the arguments in the order presented.

First of all, it is unclear what applicant means by “ multiple stationary nozzle blades....of said respective cover portions”. there is no such limitation in claim 18. it appears the limitations are stated in this appeal by mistake.

Secondly, the reference in figure 30 shows the secondary waterproof membrane (9) loose laid over the energy absorbing layer. The membrane is attached to the roof supporting members (12, 14) at locations along the roof and having large areas of the membrane not attached to anything on the roof. The large areas are loosely laid on the roof. Also, applicant has not clearly claimed the specific characteristic of applicant's “loose laid”. It is also noted that while applicant claims "loose laid", applicant's roof membrane is also attached to the roof at locations so that the membrane does not fly off due to wind. The reference thus shows the claimed limitation of “ loose laid over the energy absorbing layer ”.

Thirdly, with respect to “primary waterproofing membrane disposed over at least a substantial portion of the roof deck”, examiner respectfully points out that the reference Kelly in

**figure 30**, shows the primary waterproofing membrane (90) as claimed. The office action of 10/9/2008 clearly states the layer (90) is the claimed membrane. Applicant's argument is not reflective of the art rejection.

Kelly as modified thus shows the claimed limitations.

With respect to claims 1-2, 6, 9-17, 22-30, applicant's repeated arguments to "waterproof membrane loose laid over said frangible energy absorbing layer" is addressed above and thus not repeated.

With respect to claim 17, applicant states that Kelly figure 31 does not show " a layer of stiff material attached to said roof deck; a primary waterproofing membrane supported by said stiff material", examiner respectfully states that Kelly **figure 30** as clearly set forth in the office action of 10/9/2008 clearly shows a layer of stiff material (the layer below layer 90) attached to the roof deck. Examiner did not the claimed limitation with figure 31. Examiner relies on figure 30 as clearly set forth. Applicant's argument is not reflective of the art rejection.

With respect to " the primary waterproofing layer supported by the stiff material", examiner respectfully points out that in **figure 30**, the primary layer (90) clearly is supported by the stiff material. The reference thus shows the claimed limitations. Once again, it appears applicant's argument is not reflective of the art rejection.

Applicant's arguments to claims 3-5, 7-8, 21 are also not persuasive in light of the remarks set forth above.

Applicant presents the arguments to claim 31 similar to claims 1-2, 6, 9-17, 22-30, and since the arguments have been addressed and found not persuasive, the arguments to claim 31 are also not persuasive.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Phi D. A/

Phi Dieu Tran A

8/1/09

Conferees:

Brian Glessner

/Brian E. Glessner/

Primary Examiner, Art Unit 3633

Basil Katcheves

/Basil Katcheves/

Primary Examiner, Art Unit 3635